

DRAFT Missouri Wild Turkey Management Plan

Missouri Department of Conservation



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DRAFT

INTRODUCTION

The wild turkey (*Meleagris gallopavo*; hereafter, turkey) is one of the most important game species in Missouri and a cherished natural resource. Each year, more than 100,000 hunters pursue this species, generating considerable revenue for the state's economy. Missouri has one of the largest turkey populations in the nation and annual turkey harvests in Missouri are also among the highest in the country.

The Missouri Department of Conservation (MDC) uses a scientific approach for consideration of the biological and social issues associated with meeting its responsibility of managing the state's turkey population, and the turkey management program has evolved considerably throughout MDC's history. Throughout this process, we have increased our knowledge of turkey ecology and population dynamics, hunting opportunities have expanded, human dimensions have played a larger role in our management decisions, and recent challenges have arisen (e.g., declines in turkey production, turkey abundance, and hunter numbers).

The previously-established goal of MDC's Wild Turkey Management Program is to protect the turkey resource. Within this goal, management objectives that were formalized by the Conservation Commission during the 1970s are to maintain and enhance the quality of spring hunting and to provide hunting opportunity in the fall as long as the fall season does not have a measurable effect on the spring season. These objectives were the basis for developing Missouri's first Wild Turkey Harvest Management Plan (hereafter, Plan) which was developed in the late 1990s. The Plan has continued to guide MDC's Wild Turkey Management Program since its inception.

Since the Plan's development, Missouri's turkey population has experienced considerable change in production and abundance. In many areas of the state, turkey numbers have declined precipitously. Turkey production has exhibited a long-term declining trend in Missouri, with statewide production the last several years being among the lowest on record. Since the early 2000s, the number of spring turkey hunters has declined in Missouri. Fall firearms turkey hunter numbers have also exhibited a long-term declining trend. These changes in turkey numbers and production, and in hunter numbers, warranted updating the state's Plan. While the previous Plan was a harvest management plan, the updated Plan is more holistic and includes components related to habitat management, hunter recruitment, and outreach and education.

HISTORY OF WILD TURKEY IN MISSOURI

Missouri is home to the eastern subspecies (*M.g. silvestris*) of turkey. Historically, turkeys were abundant throughout the state, except in the prairies of western and northwestern Missouri, with numbers estimated to be between 250,000–400,000 birds. However, the species was quickly brought to the brink of extirpation following European settlement due to unregulated harvest and habitat loss. Beginning in the mid-1920s, the Missouri Fish and Game Department began releasing pen-reared or game-farm turkeys in an attempt to bolster wild populations. This practice ended in the early 1940s after failing to curb the population decline. The hunting season for turkeys was closed in 1938. Shortly thereafter, in the 1940s, the Caney Mountain Refuge in southwest Missouri was purchased as an experimental turkey management area. Through intensive management, the turkey population began to grow. Although early results on the Caney Mountain Refuge were encouraging, results of turkey

population surveys in the early 1950s estimated there were fewer than 2,500 turkeys in only 14 Missouri counties – a low-point for the population.

After release of pen-reared birds failed, it was evident that the only solution for restoring turkey populations was to capture and relocate wild-captured birds into areas with suitable habitat. To increase numbers of wild birds and provide a source population for relocations, in the early 1950s MDC began intensively managing five refuges in the southern Ozarks where a few turkeys existed. One of these areas was Peck Ranch where intensive management efforts resulted in an increase in turkey numbers from 9 birds in 1954 to 100 birds in 1957.

Although the experience on Peck Ranch showed that turkey populations could be increased with habitat management and protection from harvest, an efficient method of capturing turkeys needed to be developed to allow for initiation of a trap-and-transfer program. In 1953, this was accomplished by modifying the cannon net trap, which was originally developed for capturing geese. With this tool, biologists were for the first time able to capture large groups of turkeys in an efficient manner.

With a means of capturing turkeys developed, finding suitable releases sites became the next hurdle. After communities submitted a restocking request, biologists evaluated suitability of turkey habitat on their properties. At that time, optimal habitat was believed to be a ratio of 70% forest and 30% open lands over a minimum of 15,000 acres. Because of the large area required for a turkey release, citizens within the restocking area had to agree to protect (i.e., not harvest) the birds while populations were becoming established.

Although MDC's turkey restoration effort began in earnest in 1954, it was the success of a private land release in Ste. Genevieve county in 1960 that accelerated restocking efforts. Following this release, requests from the public began pouring in as interested communities wanted turkeys released in their area. Initially, restoration efforts were focused in southern Missouri based on thinking at the time that turkeys would only persist in areas with substantial forest cover. However, during the early 1960s, a successful release of turkeys in Adair County, which had less than 20% forest cover, changed biologists' views of turkey habitat requirements. Because of the Adair County success, turkeys began being released throughout northern and western Missouri.

When Missouri's turkey restoration efforts were completed in the late 1970s, over 2,600 turkeys had been translocated to over 200 sites in 91 counties. The restoration effort resulted in establishing turkey populations in all counties of the state and is considered by many to be one of the greatest success stories in wildlife management history.

HISTORY OF WILD TURKEY HUNTING IN MISSOURI

Spring Turkey Season Regulations

Missouri's first modern spring turkey season occurred in 1960, was three days long, and was open in 14 counties. The bag limit was one male turkey and shooting hours were from 5:00 a.m. to 12:00 p.m. Central Standard Time (CST). During that season, 698 hunters shot 94 turkeys. As population restoration efforts continued, regulations during the spring season were gradually liberalized. Non-resident hunters were first allowed to hunt during the spring season in 1967, and bearded female turkeys became legal to harvest in 1970. In 1972, the season length was increased to 14 days, and one year later, the bag limit

was increased to two birds (one could be harvested per week). By 1985, all 114 counties were open to spring turkey hunting.

In 1987, shooting hours for the spring season were established as 6:00 a.m. to 1:00 p.m. Central Daylight Time (CDT). Additionally, two measures were taken to increase hunter safety. Shot size was limited to no. 4 or smaller to reduce the severity of incidents if they did occur, and hunters were required to affix a "Be Safe" sticker to the receiver of their shotgun to increase hunter awareness about the potential for mistaken-for-game incidents.

Beginning in 1988, the opening day of spring turkey season was established as the Monday closest to April 21. The timing of spring turkey season was based on reproductive data from the Ozarks.

Specifically, opening day corresponds, on average, with the second peak of gobbling, which occurs after most of the females have begun continuous incubation. The season has always opened on a weekday to reduce hunting pressure on opening day. Similarly, allowing only one bird to be harvested per week served to reduce hunting pressure during the first week and allowed less successful hunters the opportunity to hunt the first week without competition from hunters who had already shot a bird.

In 1996, shooting hours were changed to one-half hour before sunrise to 1:00 p.m. CDT. Beginning in 1998, the season length was increased to 21 days. Hunters could only harvest one turkey during the first week of the season, and a second one could be harvested during the last two weeks of the season. Hunters that did not harvest a turkey during the first week of the season could harvest two turkeys during the last two weeks of the season, but both turkeys could not be taken on the same day.

Missouri established its first two-day youth spring turkey season in 2001, which started nine days prior to opening day of the regular spring hunting season. A youth hunter (ages 6–15) could harvest one turkey during the season. Successful hunters could not harvest their second turkey until the second week of the regular season because the turkey shot during youth season counts as the first turkey taken during the first week of the regular season. Starting in 2005, the formula for timing of the youth season was changed so if the youth season was going to overlap with Easter, the season would start one week earlier.

In 2006, the timing of the regular spring season was established as the third Monday in April, and in 2008 the shooting hours for the youth season were extended to allow hunting until sunset, instead of closing youth hunting after 1:00 p.m. CDT. Non-resident youths were first permitted to hunt during the youth season in 2010. Beginning in 2013, spring turkey hunters were no longer required to affix "Be Safe" stickers to their shotgun. In 2014, atlatls and crossbows became legal methods to take turkeys during the spring season.

[Fall Archery Turkey Season Regulations](#)

Missouri's first fall turkey season was an archery season held in 1975. The season was open for the month of October in 74 counties and resulted in the harvest of 54 turkeys. The season bag limit was one turkey of either sex, and shooting hours were from 6:30 a.m. to 7:00 p.m. CDT. In 1978, shooting hours were changed from one-half hour before sunrise to sunset. In 1979, the season length was increased through the end of December (except it was closed during the firearms deer season) to correspond with archery deer season. Non-residents were first allowed to hunt turkeys during the fall archery season in 1980.

In 1983, shooting hours were changed to one-half hour before sunrise to one-half hour after sunset. In 1988, the bag limit was increased to two turkeys, and hunters were permitted to harvest one turkey before, and one turkey after, the firearms deer season. Beginning in 1990, archers could harvest both turkeys after the firearms deer season. The season was extended in 1995 until January 15, and both turkeys could be harvested at any time during the season. Beginning in 2004, the season opened on September 15.

[Fall Firearms Turkey Season Regulations](#)

Missouri's first fall firearms turkey hunting season was held in 1978. The season was open for 12 days in 40 counties with a bag limit of one bird of either sex. Permit sales numbered 16,072, and the harvest was 4,389. Season length was increased to 14 days in 1980, and nonresidents could hunt for the first time that year. The bag limit was increased to two turkeys in 1986. Also beginning that year, the fall season began being structured like the spring season, opening on a Monday with a one bird per week bag limit. Beginning in 1988, timing of the fall firearms season was set by formula: the season was 14 days in length and ended the last Sunday in October. In 1996, the formula was changed again so that the season opened the second Monday in October. Season length was increased to 31 days (October 1–31) in 2005 and hunters were permitted to harvest two turkeys at any point during the season.

[CURRENT STATUS OF WILD TURKEY IN MISSOURI](#)

MDC's Wild Turkey Management Program uses several indices to estimate trends in turkey numbers. Based on data from these indices, Missouri's statewide turkey population reached a peak in abundance during the early 2000s following five years of high production (≥ 2.0 poult-to-hen ratio; PHR). During the mid-to-late 2000s, turkey production began declining as did turkey abundance and spring hunter satisfaction. Whereas data from the Bowhunter Observation Survey (BOS) indicated a declining trend in turkey abundance since the early 2000s, spring harvest data, spring hunter success rates, and spring hunter satisfaction suggested an increasing abundance trend from about 2011–2016, which correlates well with improved turkey production in 2011, 2012, and 2014. Production during the last four years (2016–2019), however, has been at record or near-record low levels. As a result, spring harvest declined in 2017–2018, as did hunter satisfaction. Spring hunter success dropped considerably in 2018, and despite an improvement in spring hunter success during the 2019 season, spring hunter perceptions of turkey numbers dropped in 2019. In 2019, 52% of hunters indicated they felt like the turkey population was too low; 40% of hunters felt that turkey numbers were about right and 8% indicated they didn't know.

DEFINITIONS

Long-term Stability: For the purposes of this plan, long-term stability refers to the phenomenon that established populations often experience fluctuations in abundance of considerable magnitude from year to year; however, over long periods of time the population will maintain abundance near ecological carrying capacity.

Manage (Management): For the purposes of this plan, manage (management) includes, but is not limited to population regulation through hunting, conservation and/or manipulation of habitat, and public education and outreach.

Recreational Opportunities/Activities: Include both consumptive (harvest) and non-consumptive (wildlife viewing, photography, and tracking) uses of wildlife (wild turkeys).

WILD TURKEY MANAGEMENT PROGRAM MISSION STATEMENT

Use science-based methods, including public engagement, to manage wild turkey populations throughout Missouri that will provide quality hunting and other recreational opportunities.

GOALS AND OBJECTIVES

Goal 1: Use monitoring and research to maintain long-term stability of the wild turkey population.

- Objective 1.1: Use science-based methods to assess and monitor wild turkey populations within defined Wild Turkey Monitoring Units (TMUs) and at the statewide scale.
- Objective 1.2: Conduct research to understand factors influencing wild turkey populations at multiple scales (i.e., local, regional, and statewide) to better inform management decisions.
- Objective 1.3: Use science-based methods to assess effects of harvest on the wild turkey population and inform harvest regulations.

Goal 2: Create, improve, and maintain habitats that benefit wild turkeys on public and private lands.

- Objective 2.1: Establish, improve, and maintain habitats that benefit wild turkeys on public lands.
- Objective 2.2: Establish, improve, and maintain habitats that benefit wild turkeys on private lands.

Goal 3: Promote turkey hunting and provide opportunities to enjoy wild turkey-related recreational activities.

- Objective 3.1: Promote hunter recruitment, retention, and reactivation (R3).
- Objective 3.2: Provide optimal hunting opportunity within the confines of the resource and based on desires of hunters.
- Objective 3.3: Provide opportunity for the public to engage in non-consumptive recreational opportunities related to wild turkeys.

Goal 4: Engage and educate stakeholders about wild turkey management through coordinated outreach.

- Objective 4.1: Use in-person and multimedia approaches to effectively communicate about wild turkeys and wild turkey management.
- Objective 4.2: Evaluate effectiveness of MDC's wild turkey educational programs and outreach, and update as needed.